

PLACEMENT TEMPLATE AND METHOD FOR PLACING OPTICAL DIES

ABSTRACT OF THE DISCLOSURE

5 A placement template and method for placing optical dies provides an alternative to large-die implementation for microelectromechanical systems (MEMS). Multiple dies are aligned by a template mounted on the substrate. Apertures in the template receive the dies and protrusions at the edges of the apertures guide the dies during mounting. The protrusions may be tapered having a narrow end farthest from the substrate to provide self-alignment of the dies as they are placed. The template may be epitaxially grown from a semiconductor material on either the substrate or a backing layer. The template may also be etched, stamped or otherwise formed from a metal or ceramic layer. A separate template may be bonded to a ceramic or other substrate by an eutectoid bond, providing carefully controlled template placement on the substrate.